

CLAIMS

What I claim is:

5 1. A quick adjusting choke winch for winding a choke strap having a thickness and a width, said quick adjusting choke winch comprising:

- a base plate having a bearing;
- an open-ended split-center shaft;
- at least two pack rollers;
- 10 a means for guiding the strap;
- a ratchet plate;
- a releasable main pawl, main pintle and main torsion spring;
- a releasable safety pawl, safety pintle and safety torsion spring;
- a means for turning the open-ended split-center shaft;
- 15 a cover plate;
- at least one fastening element for attaching the cover plate;

wherein the ratchet plate is co-axially affixed to the open-ended split-center shaft;

20 wherein mounted on the same side of the plate are an end of the open-ended split-center shaft, an end of the at least two pack rollers, the means for guiding the choke strap, an end of the main pintle, and an end of the safety pintle;

25 wherein the cover plate is removably mounted to at least the pack rollers, therein said cover plate receiving the open-end of the split-center shaft;

 wherein the split-center of the open-ended split-center shaft has an opening that is sufficiently wide to receive the thickness of the strap;

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wherein the at least two pack rollers, the means for guiding the strap, and the open-ended split-center shaft have a sufficient length to wind the width of the choke strap; and

5 wherein said quick adjusting choke winch can be side-threaded or end threaded.

2. The quick adjusting choke winch as claimed in claim 1, wherein said ratchet plate is mounted on the open-ended split-center shaft that is proximal to the base plate.

10 3. The quick adjusting choke winch as claimed in claim 2, wherein said means for turning the open-ended split-center shaft is a handle.

4. The quick adjusting choke winch as claimed in claim 3, wherein said handle is removable.

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5. The quick adjusting choke winch as claimed in claim 1, wherein said means for guiding the choke strap comprises a first pair of rollers and a second pair of rollers, wherein an end of each of the rollers is mounted on the base plate such that the rollers of the first pair of are separated by a distance slightly wider than the thickness of the choke 20 strap, and the rollers of the second pair of are similarly separated, and such that the first pair of rollers guides the strap on one side of the open-ended split-center shaft, and the second pair of rollers guides another portion of the strap on another side of open-ended split-center shaft.

25 6. A quick adjusting choke winch as claimed in claim 5, wherein an end of each roller of the first pair and an end of each roller of the second pair of rollers are mounted on the base plate such that the rollers are distal to the open-ended split-center shaft.

30 7. The quick adjusting choke winch as claimed in claim 5, wherein said means for guiding the choke strap further comprises a first backlash roller and a second backlash roller, where an end of the first backlash roller is mounted radial to the open-ended split-

center shaft and outside of a normal thread path, and where, on another side of open-ended split-center shaft, an end of the second backlash roller is mounted radial to the open-ended split-center shaft and outside of a normal thread path

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8. The quick adjusting choke winch as claimed in claim 7, wherein said wherein the cover plate comprises apertures for receiving an opposing end of the rollers of the first pair, the first backlash roller and the second backlash roller.

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9. The quick adjusting choke winch as claimed in claim 8, wherein said at least one fastening element for attaching the cover plate comprises one or more elements selected from the group consisting of quick connecting pins, nuts, cap nuts, wing nuts, cotter pins, ring pins, snap rings, rivets, snaps, spring loaded cams, and the like.

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10. The quick adjusting choke winch as claimed in claim 1, wherein said a releasable main pawl is comprises of an elongated pawl, a control arm and a hub, where the control arm has a length that is sufficient to easily apply thumb pressure to disengage the pawl, and where the length is short enough so as to not project beyond an orthogonal plane defined by a perimeter edge of the base plate.

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11. The quick adjusting choke winch as claimed in claim 10, wherein said releasable main pawl further comprises a locking mechanism by which the releasable main pawl can be displaced from the ratchet.

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12. The quick adjusting choke winch as claimed in claim 11, wherein said locking mechanism is a thumb switch which shifts a rod such that when the control arm is first depressed, then the control arm is restrained by the rod, or the locking mechanism is a projection emanating from the base plate, such when the control arm is depressed it slides over the projection, or the locking mechanism shifts is a cam which changes moves the torsion spring so that the torsional force is no longer applied to the main pawl.

13. The quick adjusting choke winch as claimed in claim 11, wherein said releasable safety pawl is comprises of an elongated safety pawl, a safety control arm and a safety hub, where the safety control arm has a length that is sufficient to easily apply thumb pressure to disengage the pawl, and where the length is short enough so as to not project beyond an orthogonal plane defined by a perimeter edge of the base plate.

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14. The quick adjusting choke winch as claimed in claim 13, wherein when the locking mechanism is engaged and the safety control arm is depressed the open-ended split-center shaft and ratchet can rotate freely.

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15. The quick adjusting choke winch as claimed in claim 13, wherein said handle has a socket wrench coupling mechanism for connecting to the end of the open-ended split-center shaft type.

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16. The quick adjusting choke winch as claimed in claim 13, wherein when the locking mechanism is engaged and the safety control arm is depressed the open-ended split-center shaft and ratchet can rotate freely, and the handle does not rotate.

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17. The quick adjusting choke winch as claimed in claim 7, wherein said roller is comprised at least one sleeve which rotates on a roller shaft, wherein the roller shaft has an smaller axial end for mounting to the base plate, and a smaller axial opposing end for affixing the cover plate to the roller.

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18. The quick adjusting choke winch as claimed in claim 7, wherein said open-ended split-center shaft comprises a larger two lobe winding drum, wherein the lobes are separated by a distance that is greater than the thickness of the strap, a substantially solid section to which the ratchet attaches, a smaller axial end comprised of a journal and bushing for retaining the journal, and a machined end for connecting to the handle.

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19. The quick adjusting choke winch as claimed in claim 18, wherein said two lobe winding drum further comprises a secondary journal and a secondary bushing.

20. The quick adjusting choke winch as claimed in claim 19, wherein the bushing of said open-ended split-center shaft is fitted with a collar, and the secondary bushing is fitted with a secondary collar.

5 21. The quick adjusting choke winch as claimed in claim 8, wherein said cover plate further comprises a secondary bearing for receiving the open-ended split-center shaft.

10 22. The quick adjusting choke winch as claimed in claim 1, wherein said means for turning the open-ended split-center shaft cover plate is a powered wrench, such as an electric or pneumatic or hydraulic wrench.

23. The quick adjusting choke winch as claimed in claim 18, wherein said base plate has a threading diagram.